Who's Afraid of MFOQA?

Kurt Garbow, director of aviation and operational safety (DASN-Safety) makes a point about MFOQA at the aviation maintenance symposium.

By Dan Steber

I imagine some readers may be afraid of MFOQA simply because it's another acronym and they don't know what the heck it is. Don't worry, it's not the latest virus. Rather, it could reduce mishap rates and save lives.

What is MFOQA? Capt. Mike Williamson, program manager for NavAir's Air Combat Readiness program office said, "The Military Flight Operations Quality Assurance Program is a concept of operations that provides the warfighter with timely and quantitative information regarding aircrew and system performance."

In NavAir press release No. 0603-03-1103, Vicky Falcon wrote, "MFOQA began as an effort to more efficiently tap into the Navy's and Marine Corps' information-collection capability. Every naval-aviation platform currently gathers data—to varying degrees—but modern digital aircraft and recorder technology allows for collection of virtually all aircraft data. By develop-ing the tools to take that raw data from the aircraft and deliver meaningful, manageable information, Capt. Williamson's team can give the fleet improved decision-making capabilities." She added, "With MFOQA, Navy and Marine Corps leadership will be empowered to make assessments based on specific data. Training needs can be uncovered and targeted, and the ability to exploit strengths and minimize weakness can enhance operations. Most importantly, though, problems or risk areas can be identified and addressed prior to a mishap."

Capt. Williamson said, "My team has been working closely with the deputy assistant secretary of the Navy for safety (DASN-Safety) to proactively pursue improved operational capabilities—and safety is an intrinsic part of any unit's operational capability."

Ms. Falcon wrote, "Through the efforts of DASN (Safety), the focus on MFOQA as an initiative to decrease the human-error rate and reduce aircrew skill-based errors throughout the Department of Defense (DoD) aviation community has been elevated to the Secretary of Defense."

Connie DeWitte, deputy assistant secretary of the Navy for safety, said, "We view MFOQA as a critical new initiative that will potentially give naval aviation the tools required to break below the current plateau in aviation mishaps." She added, "Naval aviation has designed and incorporated a number of major improvements over the years that have resulted in significant and sustained reductions in our aviation-mishap rate."

I asked Kurt Garbow (a retired captain, and former CO of HM-14, air boss, XO on USS *Inchon*, and deputy ComNavSafeCen on the OpNav staff and now Ms. DeWitte's director of aviation and operational safety) a question at the Naval Aviation Maintenance Safety Symposium about the hardware related to MFOQA. He repeatedly reminded me that MFOQA does not involve just putting another recording device on an aircraft. Although flight-data collection is a criti-

"World-class organizations do not tolerate preventable accidents." -Donald Rumsfeld, SecDef

cal part, MFOQA is a process that collects, records and downloads aircraft and flight data for animation, analysis and dissemination after every flight. Mr. Garbow demonstrated a mini-QAR (quick access recorder—see the photo) that had been flown during a Navy e-Business MFOQA demonstration on an FA-18 belonging to VMFAT-101. Holding up the small cigarette-lighter-sized recorder, he said, "This equipment was a COTS item and validated the test, but it likely will not be the equipment of choice as a final solution on all aircraft types."

A few maintainers at the conference were concerned about the level of information available from flight-data recorders and were worried about the work that might be generated by "false positives." Mr. Garbow displayed a slide showing an aircraft that had recorded fuel-flow differences, with an excessive split. Only one pilot wrote a VIDS/MAF indicating a problem, but a review of the data revealed many other occurrences. One purpose of the MFOQA program is to display potential trends before a critical failure. In this case, the fuel-flow splits existed on a number of flights, but pilots had not noticed or documented them.

DASN(Safety) answered what Mr. Garbow referred to as a "snowflake" from the secretary of defense about mishap rates. Three items were seen as critical to achieve reduced rates: lowering human errors, increasing and improving simulators, and implementing MFOQA.

Mr. Garbow said, "The data-collection part of MFOQA would require a download of data after every flight and would provide quantitative information about the aircraft and the people who fly it." During the FA-18 MFOQA demo at VMFAT-101, he mentioned the download of data on the flight line took 30 seconds, with another 30 seconds required to upload the data to a standard PC. He then displayed slides showing how numerous flights could be analyzed automatically to review and identify trends. In one slide,

The equipment used in the first MFOQA test could fit in one hand.

ground speeds at touchdown were evaluated.

DoN-wide MFOQA demonstrations are strongly supported by OSD, and DASN (Safety) is waiting on funding to execute a comprehensive demonstration program involving a number of other aircraft. Mr. Garbow mentioned that MFOQA likely will not be developed for all aircraft in the fleet, but the advent of more advanced aircraft will make the process easier. He said some may need only a software change, while others may need an actual "install" of recording equipment.

Wanting to explain the benefits of this program to maintainers, Mr. Garbow said, "The No. 1 benefit is that MFOQA will provide quantifiable data immediately after every flight to help assess and monitor aircraft health and systems usage in a windows-based, user-friendly format." He felt this program would make Sailors' and Aviators' lives easier, better, safer, or cleaner by collecting trend data on all similar type-model-series aircraft. He said, "It will provide the potential to learn from other commands and to share aircraft performance data, thus improving ability to troubleshoot discrepancies and return 'problem' aircraft to an up status."

Mr. Garbow clearly is passionate about the promise of this new technology and has vision beyond aircraft. He said, "I anticipate similar recording devices may be installed on ships (automated bridge) to provide animated replay for training, following critical evolutions like unreps, low-vis nav details, and sea-and-anchor evolutions. The Marines may employ similar capability on ground vehicles to record operator or vehicle performance for trends and training."

Mr. Garbow ended by reiterating the need to look at MFOQA as a process or program and not as a piece of equipment. The recorder is important, and that's why he believes we need a two-year demo program. He said, "We need to get the right people together who know what recording devices currently are available and can answer several questions. How accessible is the recorder? Are the recording rates or number of recorded parameters sufficient to provide a robust MFOQA product? How long will the install take? In the FA-18 demo, the mini-QAR took less than 20 minutes. He wanted maintainers to know that maintenance requirements, tools, and man-hours required will be part of the acquisition plan developed for each aircraft.

Dan Steber is the editor of Mech.